Bilateral Symptomatic Os Epilunatum: A Case Report

Flavien Mauler, MD[1] Stefan Rahm, MD[1] Andreas Schweizer, MD[1] Ladislav Nagy, MD[1]

[1] Department of Orthopaedics, Balgrist University Hospital, Zurich, Switzerland

Address for correspondence Flavien Mauler, MD, Balgrist University Hospital, Forchstrasse 340, 8008 Zurich, Switzerland (e-mail: flavien.mauler@gmail.com).

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Abstract

Background Accessory carpal ossicles may be the cause of atraumatic wrist pain or may be misinterpreted as a fracture after a trauma.

Case Description We report the case of a patient suffering with chronic, bilateral wrist pain without history of trauma. Sonographic examination showed a bilateral symptomatic os epilunatum, both of which were surgically resected, resulting in pain relief.

Literature Review Os epilunatum is a rare entity that has been reported only in few cadaveric specimen.

Clinical Relevance Os epilunatum is a rare accessory ossicle of the carpus that can cause this aggravating pain. Sonography enabled accurate diagnosis of this anomaly. Because of possible associated tear of the scapholunate ligament, we recommend intraoperative testing of the stability of the scapholunate joint.

Keywords
- Os epilunatum
- accessory ossicle
- carpus

Os epilunatum is an accessory carpal ossicle located in the dorsum of the hand in the angle between the scaphoid, lunate, and capitate.[1] The overall incidence of accessory ossicles in the wrist is estimated to be around 1.6%.[2,3] In a review of 1,452 radiographs, Bogart[1] did not find any case of os epilunatum. The purpose of this report is to highlight the fact that an accessory ossicle is an important differential diagnosis in chronic wrist pain, and its surgical excision may completely relieve the pain. We present what we think to be the first reported clinical case of a symptomatic bilateral os epilunatum.

Case Report

A 40-year-old housewife was referred to our consultation because of bilateral wrist pain that had lasted for many years with no history of trauma. The patient was known to have an ankylosing spondylitis, treated with methotrexate and adalimumab. At clinical examination, symptoms could be reproduced by extreme palmar flexion and dorsiflexion of the wrist. Tenderness was elicited by direct palpation of the dorsal scapholunate interval, without instability. Clinical examination showed a grip strength of 36 kg on the right side and 34 kg on the left side and a wrist motion of 70° of flexion and 75° of extension on the right side (contralateral left wrist motion of 80° of flexion and 70° of extension).

Standard radiographs from both sides showed a possible calcification at the dorsal horn of the lunate (►**Fig. 1a**). Sonography showed a well-defined accessory ossicle at the most painful point at the dorsum of the wrist (►**Fig. 1b**). In addition, magnetic resonance imaging (MRI) was performed to exclude a scapholunate ligament injury. This exam showed a bilateral os epilunatum, well defined, partially integrated into the scapholunate ligament, with no signs of ligament rupture, bony reaction, or soft tissue inflammation (►**Fig. 1c**). Local steroid and anesthetic infiltration was proposed to the patient, but she preferred to have a definitive excision of the ossicles. Resection was performed using a dorsal approach through the fourth extensor interval. Some synovitis on extensor tendons was removed. The joint capsule, which also showed some inflammatory changes, was opened, and the mobile os epilunatum could be removed on the surface of the scapholunate ligament, which showed inflammatory changes and synovitis on the left side, and on the right side synovitis and partial (4×5 mm) destruction of its dorsal part (►**Fig. 2a–c**). The proximal fibrocartilaginous membrane was

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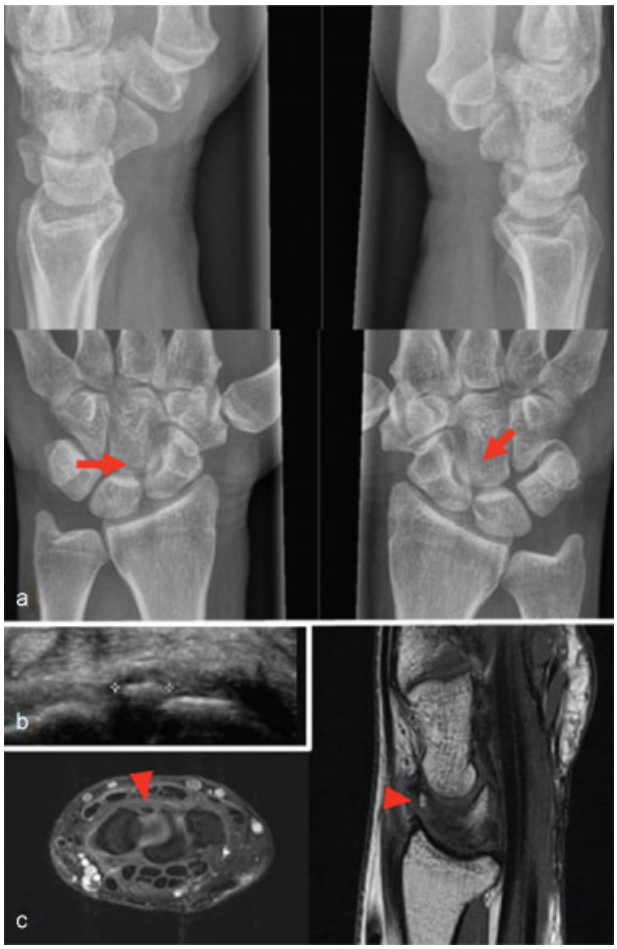

Fig. 1a–c (**a**) Lateral and anteroposterior (AP) radiographs of left and right wrists, showing a possible calcification (arrow). (**b**) Axial sonography showing the ossicle between the lunate and scaphoid. (**c**) Axial and sagittal MRI showing the os epilunatum on the dorsal side of the scapholunate ligament (arrowhead).

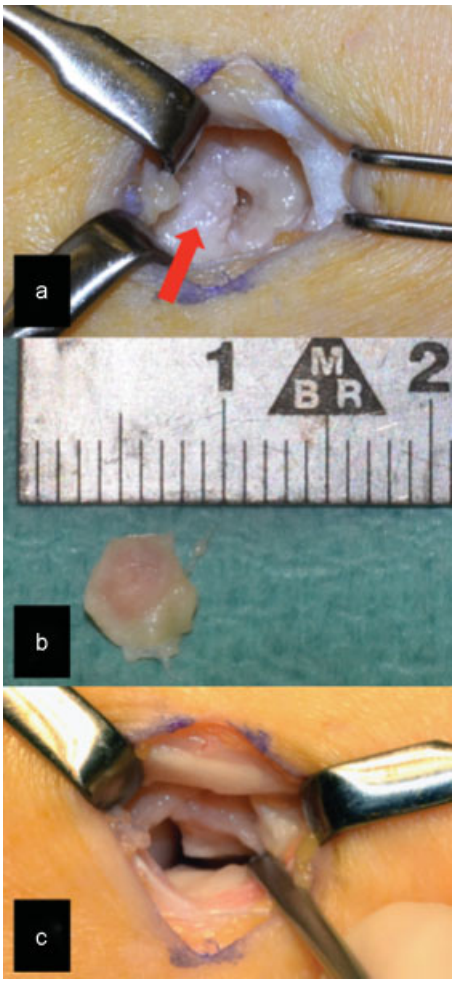

Fig. 2a–c Intraoperative finding. (**a**) Ossicle (arrow) with partial destruction of the scapholunate ligament. (**b**) The resected os epilunatum. (**c**) Gap in the scapholunate interval after resection of the ossicle, showing the lunate above, scaphoid below and the capitate on the left.

intact. Although the joint was clinically stable, a ligamentorrhaphy of the scapholunate ligament was performed on the right side. At the last visit, 3 months after the right-hand operation and 11 months after the left-hand operation, the patient was pain free with a grip strength of 34 kg on the right side and 32 kg on the left side, and a wrist motion of 70° of flexion and 70° of extension on the right side (contralateral left wrist motion of 70° of flexion and 75° of extension).

Discussion

The os epilunatum is a rare accessory ossicle. After reviewing the scientific literature, we found only a few cadaveric descriptions,[3–5] but no clinical cases. Pfitzner defines it as a cartilaginous nodule appearing at an early age, generally becoming fused with the distal corner of the lunate, but sometimes remaining separated and becoming ossified in that position.[3,4] Johnston reported the case of a dissection specimen with bilateral carpal bone anomaly, including bilateral os epilunatum. The ossicle was joined to the lunate by fibrous tissue but was freely movable, and its anterior aspect was coated with cartilage, articulating with the scaphoid and to some extend with the capitate.[4] Clinically, such an accessory ossicle can be traumatized and misinterpreted as a fracture. In the present case we were confronted with a patient with persistent dorsal wrist pain over a very long time, which could be solved by simple excision of the ossicles. The pain can be interpreted as the consequence of the partial destruction of the scapholunate ligament and the synovitis and inflammatory changes around the os epilunatum, mostly at the joint capsule and the finger extensor tendons. Cortical and cancellous bone with fissures and structural alterations were found on the histology of the ossicle, but there were also chondroid metaplasia, which have been described and interpreted in the tendon sheaths in de Quervain disease.[6] So the genesis of pain here seems to be on one hand induced by a perifocal inflammatory reaction caused by the ossicle, and on the other hand by a degenerative process, as supported by the histological finding. This example should show future hand surgeons that an accessory ossicle (in this case an os epilunatum) can cause this aggravating pain. Sonography enabled us to accurately diagnose this anomaly, which was confirmed by MRI, although these images did not show the tear of the dorsal scapholunate ligament. For this reason, if a lesion of

this ligament is suspected or seen intraoperatively, we recommend testing the stability of the scapholunate joint.

Conflict of Interest
None

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